Danger and Rituals of Avoidance Among New England Fishermen[1]

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Introduction

Situations of high uncertainty, especially if they are in some way threatening to the individual, induce relatively high levels of anxiety. Any activity on the part of the individual which provides a sense of involvement with hope for control can serve to reduce the anxiety (Pervin 1963). A number of theorists have suggested that superstition and/or religion is a type of activity which can fulfill the function of reducing this type of anxiety (e.g., Jahoda 1969, Malinowski 1948, Kluckhohn 1942, Homans 1941).[2] Research published by Wilson and Miller (1968) indicating that both fearfulness and anxiety are significantly correlated with degree of religiousness provides some support for this relationship. Hence, religion and/or superstition, by providing a subjective feeling of predictability and control, can reduce anxiety. Since anxiety can reduce many individuals' ability to function effectively in dangerous and/or difficult but highly unpredictable situations, religion and/or superstition may have adaptive value for the individual. Jahoda (1969) suggests that it may have survival value in dangerous situations and may explain why individuals in risky occupations tend to be more superstitious. For example, Stouffer et al. (1949) report a large number of superstitious activities practised by combat soldiers in the Second World War. These activities included ritual avoidance of certain objects or behaviors as well as the wearing of lucky charms.

Rituals related to uncertainty frequently become part of the sub-cultural or cultural patterns of populations dealing with sustained uncertainty. Sociocultural groupings such as occupational sub-cultures, military units, sports teams, bands, tribes, villages, and even large segments of nations may display patterned rituals which are passed from generation to generation. The occupation of ocean fishing exposes participants to a relatively high degree of uncertainty, both with respect to the amount of fish they will capture on a given trip and personal safety. The purpose of this paper is to examine the relationship between culturally patterned ritual proscription and uncertainty among commercial fishermen in Southern New England.

Numerous authors have documented the extent of ocean fishermen's taboos in a number of cultural traditions around the world (e.g., Anson 1965, Dorson 1964, Creighton 1950, Frazer 1890, Goode 1887), and some researchers have related the incidence of these ritual proscriptions to uncertainty of the catch or the dangers presented by the sea. For example, Malinowski (1948) notes that

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among the Trobriand Islanders there is no magic associated with safe and sure lagoon fishing, but extensive magical ritual is practised to insure safety and good results in the less predictable, more dangerous open sea. On the Pacific island of Ifaluk, Burrows and Spiro (1953) found no ritual associated with farming, in contrast to the extensive amount of magic associated with ocean voyages and canoe construction. Lessa (1966) reports long sea voyages from the Micronesian Island of Ulithi are associated with extensive magic, while short ones have none. Additionally, he notes that there is no ritual associated with shellfish collecting in contrast to the elaborate magic used to aid fishing on the open sea. Firth (1967) notes that spear and bow and arrow fishing on Tikopia in Polynesia have no ritual, possibly due to the limited uncertainty associated with the immediate relation between visible fish, the fishing action, and the result. Visibility is particularly important in reducing uncertainty for humans in that our species relies so heavily on visual input. Conversely, we find that ritual is heavily associated with techniques where the fish are not continually visible (e.g., net or hook and line fishing). In Kenya, the most uncertain ways of ocean fishing require services of the highest level of ritual specialists (Prins 1965). Similarly, Ainu fishermen become particularly concerned with ritual when swordfish are sought in the open sea (Watanabe 1972). Oto (1963) writes that Japanese fishermen bolster their luck through adherence to a large number of taboos and the practice of ritual magic. Price (1964) finds a relationship between degree of risk and extent of ritual among Martinique fishermen, and Poggie, Pollnac, and Gersuny (1976) report that day fishermen report fewer taboos than fishermen whose trips are longer than one day in length. Even on the large, modern tuna seiners sailing from California, rituals to protect the fishermen from poor catches and the dangers of the sea are practised (Orbach 1977). Knipe (1984) found that tabooed words and practices among fishermen in North Scotland reflected concern with the catch, boat, weather, and personal safety. Spanish deep-sea trawler fishermen in the North Atlantic also observe a number of verbal taboos, although they say they do not believe in them (Zulaika 1981). Lummis (1985) presents findings which lead him to conclude that economic anxiety is the major cause of fishermen's superstitions. Finally, in this issue, Smith suggests that risks other than personal ones have become more important in the context of modern fishing.

Several interesting questions arise from the literature reviewed above. There is the question concerning the relative importance of various types of uncertainty in producing the anxiety which results in superstitious behavior. The occupation of fishing confronts its practitioners with two major classes of anxiety: 1) uncertainty with respect to production, or how much fish will be caught, and 2) uncertainty with respect to personal safety resulting from the hazards of marine fishing. Poggie and his colleagues have tended to emphasize the risk to personal safety as being the important factor. In one case they compared fishermen with millworkers from the same community in Southern New England and reported that the greater level of superstition among fishermen resulted from the more hazardous nature of their occupation (Poggie and Gersuny 1972). Lummis (1983) provides a cogent criticism of their conclusion by noting that the

differences could have resulted from other differences between the occupations, including economic ones. In a follow-up study, Poggie, Pollnac, and Gersuny (1976) conducted a more sophisticated analysis of the data comparing fishermen who go out for one day with those who go out for two or more days. The assumption was that fishermen with longer trips are exposed to more storms, illness, injury, and disaster due to the nature of the ecological niche exploited and removal from shoreside aid. The 'trip' fishermen fish farther from shore in more dangerous conditions than the 'day' fishermen. They found a statistically significant correlation between 'trip' fishing and number of taboos. In addition, they found a statistically significant negative correlation between coming from a fishing family and number of taboos. This they interpreted as indicating that fishermen from a fishing family are more effectively preadapted to the psychological stresses of fishing through extensive familial involvement and exposure to successful role models.

In contrast, Mullen (1969) and Lummis (1983,1985) present findings which they interpret as providing support for the hypothesis that economic uncertainty is the primary influence on level of superstitious behavior. Mullen compared Texas 'sea fishermen' and 'bay fishermen,' and Lummis analyzed historical data concerning British fishermen from East Anglia during the late 19th and early 20th centuries. Lummis reports that the 'inshoremen' who have the least economic and personal risk manifest the least amount of superstition. Trawler fishermen, who are exposed to the most personal risk but are intermediate with respect to economic risk, practise an intermediate level of superstitions. Finally, 'driftermen' with an intermediate level of personal risk but the highest level of economic risk are the most superstitious. Lummis interprets these findings as supporting economic uncertainty as the prime determinant of level of superstition. He finds further support for this interpretation in the fact that East Anglian skippers, who have a greater economic interest in the success of a trip than the crew, are more superstitious. He reports that crew are more willing to scoff at ritual.

Lummis' findings have important implications with respect to those reported by Poggie, Pollnac, and Gersuny (1976). If Lummis had dichotomized his fishermen into inshore (somewhat equivalent to 'day' fishermen) versus all others and simply tested the personal risk hypothesis, his results would have been the same as Poggie, Pollnac, and Gersuny's. Driftermen and trawlermen together are exposed to more personal risk and have a higher level of superstition than inshoremen (see Lummis 1985:153). This type of analysis, however, would not have been as complete as the analysis presented by Lummis. Lummis' research suggests that we need to look at the data more precisely than can be done with a simple 'day' versus 'trip' dichotomy. In the present paper we look at the relationship between ritual avoidance and average trip length in days. Additionally, following Lummis (1985), we examine the relationship between superstition and fishing type to determine if variance in economic certainty influences superstitions. Finally, we look at the fishermen's explanations of the functions of the taboos to see how they relate to protection or production.

We also agree with Lummis' proposition that skippers, who are predominantly the owners of vessels in our sample, have a greater economic interest in the venture than crew; hence, the hypothesis that skippers are more superstitious than crew will be tested. It is important to note, however, that skippers also feel considerable responsibility for the personal safety of the crew. Thus, the two types of risk may influence their anxiety levels resulting in an inconclusive test for determining whether economic risk or danger is the prime factor.

Methods

Data for this study were collected from three Southern New England ports. The emphasis on fishing in the three ports varies from predominantly trawler fishing in New Bedford, Massachusetts, where fishermen spend from a week to eleven days at sea on each trip, to a mixture of day trawler and longer trip operations in Point Judith, Rhode Island and Stonington, Connecticut.

Data for the study are derived from an interview schedule administered to a random sample of 108 fishermen from the three ports.[3] The dependent variable, number of taboos, was measured by asking the fishermen to describe all superstitions related to fishing they could remember. They were also requested to give the meaning of each superstition. Although this is not a direct measure of ritual behavior, it has been shown empirically that a person's knowledge of a topic is related to interest in the topic (Cattell 1965). Fishermen often expressed a degree of embarrassment when talking about their ritual beliefs and practices. They would often state that they did not believe in them but, on the other hand, admitted that they would not break the taboo while fishing. Zulaika (1981) similarly reports that Spanish trawlermen express lack of belief in verbal taboos, but they too observe them onboard. Knipe (1984) reports that when he mentioned the word 'pig' onboard a Scottish seine-netter, the crew stopped what they were doing, looked at one another, and then laughed. They then seriously told him that the skipper would put him off the boat for breaking a taboo. Hence, although some fishermen claim that they do not believe in the taboos, the number they report probably reflects both their interest and strength of belief. Independent variables (e.g., average trip length, crew status, etc.) were measured by responses to direct questions on the interview schedule.

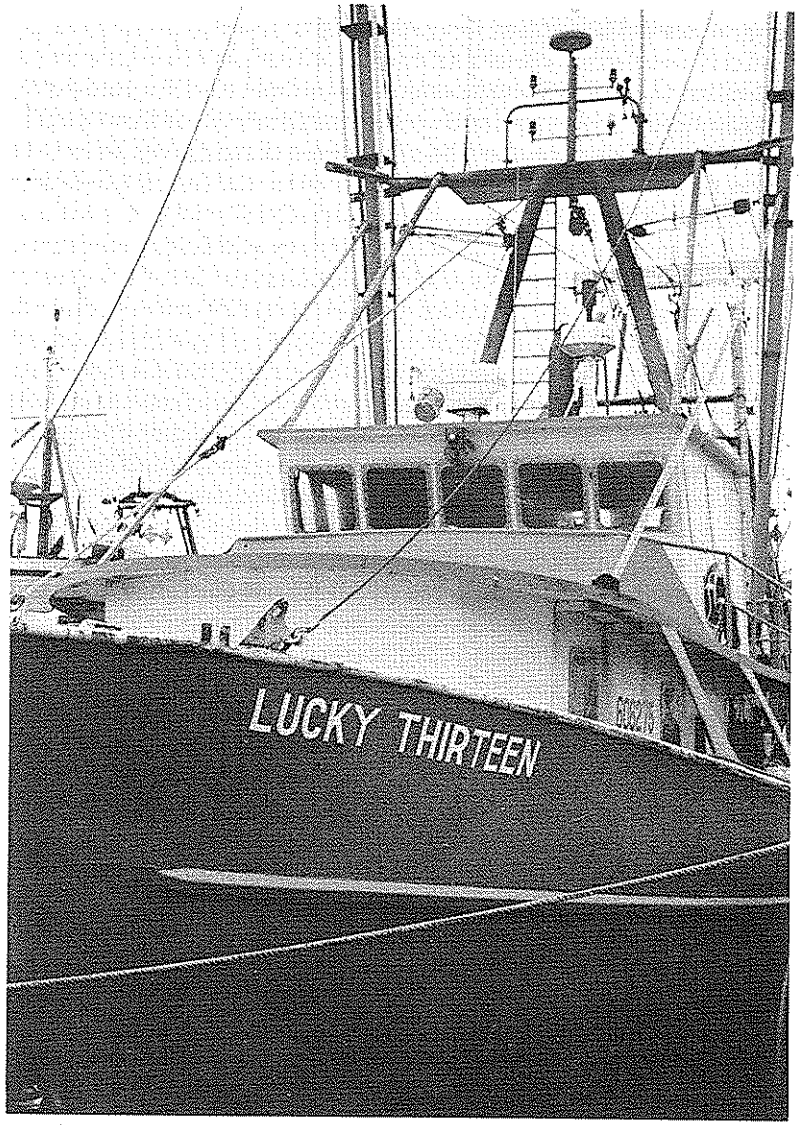
Analysis and Results

Taboos and Their Content

A total of 87 different taboos were reported by the fishermen in our sample. For the most part, these taboos are proscriptive sayings; e.g., do not say a certain thing or something bad will happen. Of the 87 taboos, nine were shared by more than ten percent of the sample. The nine most frequently mentioned taboos along with percent distribution are: 1) don't turn a hatch cover upside down (78%); 2) don't whistle on a boat (47%); 3) don't mention the word 'pig' on-

board (41%); 4) never turn against the sun (23%); 5) don't allow a man with a black bag onboard (22%); 6) don't wear a yellow sou'wester (13%); 7) never make pea soup on a trip (11%); 8) don't open a milk can upside down (11%); and 9) never start a trip on Friday the 13th (10%).

Analysis of the meaning of the taboos suggests that considerations of personal safety play a larger role than production. Responses concerning meaning vary



The 'Lucky Thirteen', Galilee, R.I.

from fisherman to fisherman, and some are more explicit than others. For example, 77 percent of the total meaning responses are simply expressions of undifferentiated 'bad luck.' Where responses are more specific and can be classified according to the uncertainty factors, 74 percent of the specific responses refer to personal safety in contrast to only 17 percent which involve production.

Although most responses refer to undifferentiated 'bad luck,' perhaps an examination of more explicit responses concerning the meaning of the most frequently mentioned taboos can add additional support to our argument. All of the explicit responses with respect to 'don't whistle on a boat,' 'don't wear a yellow sou'wester,' 'don't open a milk can upside down,' and 'never make pea soup on a trip' refer to aspects of personal safety; for example, death or injury onboard, dangerous weather, or the boat sinking. In contrast, only one taboo, 'never turn against the sun' has 100 percent of its explicit meanings which can be interpreted as production related (e.g., little or no fish for the trip, the nets will get torn, etc.). The rest of the high frequency taboos elicit mixed explicit responses. For example, 'never turn a hatch upside down' has 64 percent of its explicit meanings refer to personal safety in contrast to 36 percent for production. 'Don't mention the word 'pig' onboard' and 'don't allow a man with a black bag aboard' have equal numbers of production and personal safety responses. Finally, none of the responses to 'never start a trip on Friday the 13th' are explicit beyond the statement 'bad luck.' It appears, then, that where the taboo's meaning is made explicit by the fishermen, it tends to be for personal safety. In many fishermen's minds, however, the functions of the taboos are general, to prevent 'bad luck' which can refer to either personal or economic disaster.

Taboos and Trip Length

We next turn to the relationship between number of taboos and trip length. It is clear that the longer the trip, the greater the exposure to the dangers present in the North Atlantic. Storms or mechanical difficulties can mean sudden capsizing and almost certain death, especially in the winter when even brief exposure in the water can lead to death due to hypothermia. Within the past several years we have had boats sink so rapidly that survivors noted that they hardly had time to don survival suits before the vessel went under. There is not only the danger of capsizing, but non-fatal injuries that occur onboard the boat become more life threatening as the steaming time to shore becomes greater. Hence, the longer the trip the more exposure to danger, and the greater the uncertainty and concomitant ritual avoidances. Therefore, we expect that there is a positive relationship between trip length and number of taboos.[4] Since there is a limit to the number of taboos known by individual fishermen, we do not expect that the relationship will be linear. It is expected that the number of taboos will increase and then increase more slowly or level off as trip length increases. This is referred to as a log-linear relationship. This expectation is borne out in the analysis of the data. A linear regression analysis of the relationship between trip length and

number of taboos results in a smaller coefficient ($R=0.29$, $p=0.003$) than a log-linear analysis ($R=0.35$, $p<0.001$).

An examination of the scatter-plot of the two variables, however, suggests that the number of taboos increases, then decreases and levels off as trip length increases. This suggests that a polynomial regression would provide the best model to fit the data. The analysis indicates that while a second-degree polynomial equation (a curve increasing and then decreasing) increases the degree of fit ($R=0.37$), a third-degree polynomial provides an even better fit ($R=0.42$, $p<0.01$). The shape of the relationship between trip length and number of taboos as described by the third-degree polynomial can be found in Figure 1.

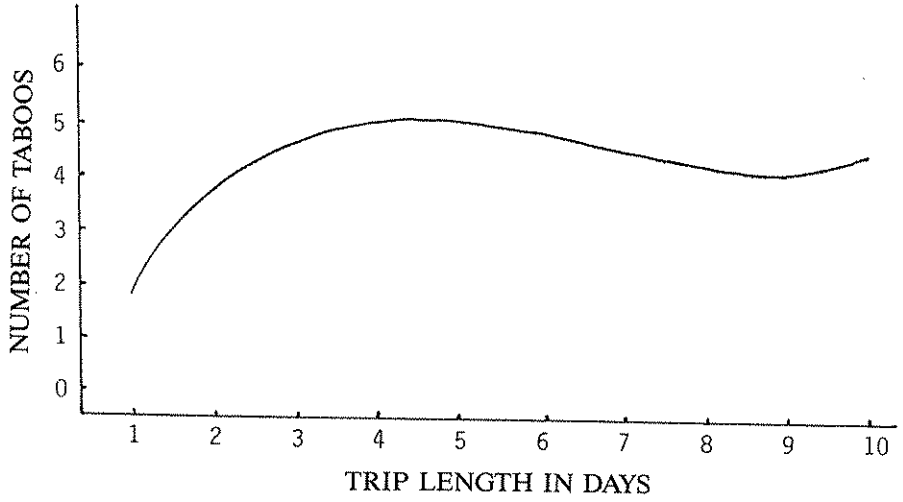


Figure 1. *Plot of Relationship Between Trip Length and Number of Taboos*

Taboos and Economic Interests

As a means of testing the hypothesis that skippers practise more superstitions than the crew because of their greater economic interest in the venture, an analysis of variance was conducted. In our sample, we have skippers who are also owners, non-owner skippers, and crew. Comparing owner-skippers with others (crew and non-owner skippers), the mean number of taboos reported are 3.35 and 4.11 respectively ($F=2.87$, $df=1, 105$; $p=0.09$). Comparing owners with others, the mean number of taboos reported are 3.26 and 4.01 respectively ($F=2.61$, $df=1, 105$; $p=0.11$). Finally, comparing the three categories, owner, skipper, and crew, the mean number of taboos reported are 3.26, 3.62, and 4.11 respectively ($F=1.54$, $df=2, 104$; $p=0.22$). All of these differences are opposite to the direction dictated by the 'economic interest' hypothesis and are not statistically significant.

Taboos and Fishing Types

Finally, we examine the major categories of fishermen in our sample to determine if they differ significantly with respect to number of taboos. There are three major categories of fishermen in the sample: 1) inshore shellfishermen (lobsters and quahaugs), 2) trawler fishermen, and 3) offshore shellfishermen (scallops and lobsters). An analysis of variance across these three groups reveals that inshore shellfishermen have the fewest number of taboos (mean=1.6), offshore shellfishermen have the most (mean=4.6), and trawler fishermen are intermediate (mean=3.9). The overall analysis of variance is statistically significant ($F=10.84$, $df=2, 104$; $p=.0001$) but is primarily the result of the exceptionally low number of taboos among the inshore shellfishermen. The difference between the offshore shellfishermen and trawler fishermen is not statistically significant.

Discussion

The results of our analysis support the claim that the principal function of ritual avoidances among fishermen in Southern New England is to reduce anxiety resulting from uncertainty with respect to personal safety. Where the meaning of the taboo was specified by the fishermen, it was more than four times as likely to deal with protection from danger to self than production. Of the nine high frequency taboos, which represent 69 percent of the total responses, four were concerned only with personal safety in contrast to only one concerned exclusively with production. The rest had mixed functions, but it is important to note that the highest frequency taboo, 'never turn a hatch cover upside down,' was almost twice as likely to be interpreted as affecting personal safety than as affecting production. Hence, the subjective meaning attached to the taboos by the fishermen themselves tends to support the hypothesis that they function primarily to 'protect' the fishermen from physical harm. Insuring a good catch seems to be secondary to safety. This is like the 'hierarchy of life.' We must satisfy our safety needs before we do anything further!

There is also a clear relationship between trip length and number of taboos. We predicted that number of taboos would increase along with trip length up to a certain point and then level off or increase more slowly. Analysis of the data, however, indicated that the relationship is more complex than a simple curve which increases, then increases more slowly. The number of taboos increases rapidly as trip length increases to two and three days, then begins to level off and drop gradually after trip length increases to more than five days. There is a gradual drop in the curve between five and nine days, and it begins to climb again on the tenth day. Unfortunately, none of the vessels in the sample had average trip lengths greater than ten days, so we cannot determine if the increasing trend would continue. This curve has a plausible interpretation in terms of our hypothesis which stresses the primacy of uncertainty with respect to personal safety.

We interpret the curve as follows. Day fishermen fish relatively close to the shore. Many of them are inshore lobstermen who fish within relatively easy reach of land or land-based help if some mishap occurs. Shoreside landmarks are usually visible and if a storm warning is posted, the day fishermen can reach safe waters and port in a relatively short period of time. Additionally, the Coast Guard can respond quickly and with minimal searching for an inshore boat. Hence, the perceived danger for fishermen is much less in vessels with average trip lenths of one day.

Trips longer than one day result in staying overnight on the water and usually involve trips much farther from shore. We would argue that the overnight factor – sleeping on the vessel and the visual sensory deprivation associated with darkness – result in a substantial increase in perceived danger. Darkness has always been the primary source of unknown perils for highly visually dependent humankind, a time when we are less rational about what is 'out there' because we cannot see it. Add to this the fatigue of a day of fishing, and taboos will seem ever more efficacious. Additionally, the real danger is increased. Boats that go out overnight are farther from help if needed, more distant from safe waters if a storm comes up, more subject to being hit by large ships, and more difficult to locate by Coast Guard rescue vehicles – especially at night if there is a power failure or if the emergency lights are lost when a boat capsizes. Hence, the sharp increase in taboos between one and two days. The increase slows between two to four days probably reflecting that the first night is a threshold factor which triggers a level of anxiety that is maintained, and then added to, not so drastically, as increased time reflects increased removal from safety.

Why, however, does the curve level off and then drop slightly? Speculation is involved in this interpretation that can only be resolved by future research. Perhaps least speculative is the observation that although the vessels on these longer trips are farther from their home ports, they are closer to alternative ports farther north and south along the coast. Hence, their degree of removal is not as great as five or more days out would suggest. It is not five or more days straight out to sea, but out and northeastward somewhat paralleling the coastline to the fishing grounds known as the Georges Banks or the Grand Banks, or southwestward to the fishing grounds along the Middle Atlantic States of the United States.

A more speculative interpretation of the levelling and slight drop-off of taboos after the fourth day involves the hypothesis that there is some threshold in terms of length of exposure to the anxiety generating situation that results in the fishermen becoming habituated to the risk. If average trip lengths are less than this threshold, the individual returns to the relatively security of land before becoming habituated. His anxiety level is reduced only to be raised again by the next trip which is not long enough to pass the habituation theshold. This threshold will, of course, vary from individual to individual, but in our data the threshold appears to be about four days for the 'average' fisherman.

Why the curve begins to turn upward again at ten days at sea is difficult to interpret. The amount of variance explained by the third-degree of the polynomial is statistically significant ($p=0.03$), but the final upward shift may be an anomaly that would disappear if the sample contained fishermen with greater trip lengths. The third-degree of the polynomial may simply reflect the cessation of the downward curve and its subsequent levelling out. Unfortunately, our data will not resolve this question.

The comparison of fishing types does little to untangle the separate effects of economic and personal safety uncertainty. Inshore shellfishermen have both the shortest trips and the least variation in catch. Trawler fishermen have the highest variation in catch, and offshore shellfishermen are intermediate in catch variation. Offshore shellfishermen spend the greatest amount of time out (mean = 7.2 days versus 6.3 days for trawlers) and have the largest number of taboos (mean = 4.6 versus 3.9 for trawlers), but neither of these differences are statistically significant ($F=1.47$ and 1.70 respectively, $df=1, 89$, $p>0.10$). If the differences were statistically significant they would have provided limited evidence against the primacy of the economic hypothesis. Hence, the results of this part of the analysis are inconclusive.

Finally, turning to our finding that owners, skippers, and crew manifest no differences with respect to number of ritual avoidances, the results tend to weaken the economic determinant hypothesis. Since skippers and owners have much more to lose as a result of low catches, one would expect them to have more taboos. They do not, however, thus strengthening the claim that personal safety is the prime determinant of the anxiety reduced by ritual behavior.

The perception of danger discussed here has its basis in reality. The occupation of fishing is far more dangerous in terms of loss of life than coal mining, which is the most dangerous land-based occupation in the United States. Fishermen frequently refer to near or actual mishaps of their own and others. Despite the advanced technology of modern vessels and survival gear, lives are lost in the most frightening of circumstances. A recent example is typical.

In January 1987, a fishing vessel with five crewmen out of Point Judith, Rhode Island was on its way home from a three day trip with a load of fish. It was located in the waters off Cape Cod, Massachusetts when it suddenly began to capsize. The waters were freezing cold, and the sole survivor said he saw three crew members trying to don survival suits as he dove overboard without his. He and another crew member managed to grab the lifeboat, but it inflated so violently it threw the two men back into the water. The surviving crew member managed to climb back onto the raft, but the other crew member never reappeared. The lone survivor wrapped his feet with gauze from the first aid kit for warmth. He was rescued by the Coast Guard some 20 hours later. The search went on for the other crew members for several days, but none was found. Throughout this time coordinates of the wreck were transmitted over the weather band and other emergency channels, and other fishermen joined in the search, fully realizing that it could be them the next time. Memorial services at Point Judith ended with a ritual – a wreath was thrown to the sea.

The circumstances of this disaster are not atypical. The speed with which boats sometimes capsize and sink is phenomenal. Although adequate survival

gear is carried by many vessels, there is little time to put it on when the boat is listing in heavy weather. Anyone involved in a search and rescue mission in the North Atlantic in rough weather and during the short days of winter (and many fishermen have searched for lost vessels) knows the difficulty of seeing and finding a speck of humanity in the vast, dark, heaving ocean, and chances of survival are slim during cold weather when hypothermia results in death if the fisherman is not found quickly.

In conclusion, the material analyzed here provides relatively strong evidence that anxiety about personal danger while fishing is the principal stimulus for the taboo behavior observed among commercial fishermen in Southern New England. Although shoreside-induced rationality results in their disavowing belief in the efficacy of the taboos, they are well known and usually observed at sea where the salience of danger raises anxiety levels and discourages testing the strength of their 'disbelief.' It won't hurt to not break the taboo, but it might hurt to break it.

Notes

1. This research is part of a larger sociocultural study of fishermen supported, in part, by the Sea Grant Program of the University of Rhode Island.

2. As used here, ritual refers to a prescribed form of religious behavior. The concept of religion used is broad, encompassing magic and other superstitious beliefs. There is justification for this broadened concept in the literature. For example, Hammond (1970) writes that magic is a form of ritual behavior and thus an element of religion. Douglas (1973) attributes the apparent contrast between sacraments and magic on the one hand, and taboos and sin on the other, to our vocabulary rather than real differences in content. Finally, it is suggested that the dichotomization of magic and religion is a result of their being conceptualized in the Western Christian tradition (Saliba 1974). Rituals of avoidance are prescribed behaviors which have as a defining characteristic the avoidance of some activity, object, or word which if not avoided can result in undesirable change. A taboo is a basic type of ritual of avoidance – one is ritually proscribed from performing certain behaviors. These types of beliefs are frequently referred to as superstitions; in fact, the fishermen of Southern New England refer to their taboos as 'superstitions.' For our purposes, a superstition is a non-rational and/or non-scientifically based belief concerning cause-effect relationships.

3. The formal religion of fishermen in our sample was evenly divided between Catholics and Protestants. Although not the topic of this paper, we found no relationship between type of formal religion (Catholic vs. Protestant; $x2=1.14$, $p>.05$) and our dependent variable.

4. Some critics have suggested that this relationship may be confounded by vessel size. In an earlier analysis (Poggie, Pollnac and Gersuny 1976) we have shown that the relationship between vessel size and number of taboos reduced to close to zero when trip length is controlled.

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2. Type footnotes and references on separate pages at the end of the article.
3. Limit articles to 10,000 words, maximum, and include a 150-word summary.
4. Place figures, tables, graphs, charts, and maps (titled and numbered) on separate pages, and note clearly in the text where they should appear. Draw charts and maps in black waterproof ink, and submit them camera-ready.
5. Use author-date references (Byron 1980:228-31; Taylor 1983; Löfgren 1979), and list all works cited alphabetically by author:

Byron, R.
1980 Skippers and Strategies: Leadership and Innovation in Shetland Fishing Crews. *Human Organization* 39(3):227-32.
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